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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,283	01/02/2002	Tadahiko Furuta	217522USOPCT	1457

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EXAMINER

SHEEHAN, JOHN P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/019,283	<b>Applicant(s)</b> FURUTA ET AL.	
	<b>Examiner</b> John P. Sheehan	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2004 and 24 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-10 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 15 is/are rejected.
- 7) ☒ Claim(s) 5, 8 to 10 and 16 to 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2004 has been entered.

### ***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 to 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. In view of the claim language, "is subjected to cold-working" (claim 1, line 15, emphasis added by the Examiner) it is not clear whether the claimed titanium alloy member has actually been cold work or is merely claimed as capable of being cold worked. Those skilled in the art would not understand what is claimed even when the claims are read in light of the specification. This rejection can be overcome by changing, "is" to --having been--.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 to 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed et al. (Ahmed, US Patent No. 5,871,595, cited in the IDS submitted May 27, 2003) alone or further in view A Dictionary of Metallurgy.

Ahmed teaches a titanium alloy comprising, in weight percent:

Zr     2.5 to 13 %

Nb     20 to 40 %

Ta 4.5 to 25 %

Ti the balance (column 2, lines 46 to 56)

with interstitial elements C, N and O being present in the amount of up to 0.5%. This alloy composition encompasses applicants' Sample No. 1 alloy disclosed in the instant specification (see page 31, paragraph 00127). In view of this, it appears that Ahmed's alloy overlaps the instantly claimed alloys. Further, Ahmed teaches a process of making the disclosed alloy comprising melting the alloy components, casting the molten alloy to form an ingot, forging or machining the ingot to the desired shape, followed by heat treatments and/or working steps depending on the desired crystal structure (column 4, lines 56 to 63).

A Dictionary of Metallurgy teaches that the definition of working includes cold working.

The claims and Ahmed differ in that Ahmed does not teach the functional proportions as recited in applicants' claims and while Ahmed teaches working the titanium alloy Ahmed does not specifically teach cold working the titanium alloy.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Ahmed overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Further, the cold working step recited in applicants' product by process claims does not necessarily lend patentability to the claimed product, MPEP 2113.

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Finally, as evidenced by A Dictionary of Metallurgy, the definition of the term, “working” encompasses cold working. In view of this, Ahmed's use of the term, “working” (column 4, lines 62) encompasses cold working as recited in applicants' product by process claims. Accordingly, the process taught by Ahmed is considered to encompass the process steps recited in applicants' product by process claims.

6. Claims 4, 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed et al. (Ahmed, US Patent No. 5,871,595, cited in the IDS submitted May 27, 2003) in view A Dictionary of Metallurgy.

Ahmed teaches a titanium alloy comprising, in weight percent;

Zr      2.5 to 13 %

Nb	20 to 40 %
Ta	4.5 to 25 %
Ti	the balance (column 2, lines 46 to 56)

with interstitial elements C, N and O being present in the amount of up to 0.5%. This alloy composition encompasses applicants' Sample No. 1 alloy disclosed in the instant specification (see page 31, paragraph 00127). In view of this, it appears that Ahmed's alloy overlaps the instantly claimed alloys. Further, Ahmed teaches a process of making the disclosed alloy comprising melting the alloy components, casting the molten alloy to form an ingot, forging or machining the ingot to the desired shape, followed by heat treatments and/or working steps depending on the desired crystal structure (column 4, lines 56 to 63).

A Dictionary of Metallurgy teaches that the definition of working includes cold working.

The claims and Ahmed differ in that Ahmed does not teach the functional proportions as recited in applicants' claims and while Ahmed teaches working the titanium alloy Ahmed does not specifically teach cold working the titanium alloy.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Ahmed overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the

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instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Further, as evidenced by A Dictionary of Metallurgy, the definition of the term, “working” encompasses cold working. In view of this, Ahmed’s use of the term, “working” (column 4, lines 62) encompasses cold working as recited in applicants’ process claims. Accordingly, Ahmed is considered to encompass the process steps recited in applicants’ process claims.

#### ***Allowable Subject Matter***

7. Claims 5, 7 to 10 and 16 to 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

8. Applicant's arguments filed May 20, 2004 have been fully considered but they are not persuasive.

9. Applicants, relying on the Declaration submitted under 37 CFR 1.132 argue that “cold-working promotes the appearance of non-linear stress-strain properties”. The



Examiner is not persuaded in that the declaration under 37 CFR 1.132 filed May 20, 2004 is insufficient to overcome the rejection of claims 1 to 3, 4, 6 and 15 based upon

Ahmed as set forth in the last Office action because:

I. The declaration presents only one alloy representing the instantly claimed invention, in view of this, the declaration is not persuasive in that it is not commensurate in scope to the claimed invention, MPEP 716.02(d). General superiority cannot be inferred from the results obtained using a single embodiment of the claimed invention, In re Greenfield, 197 USPQ 227, 230 and MPEP 2144.08 (B)..

II. Applicants "'have the burden of explaining the data in any declaration they proffer as evidence of non-obviousness' Ex parte Ishizaka, 24 USPQ2d 1621, 1624 (Bd. Applicant. & Inter. 1992)", MPEP 716.02(c). Applicants have not explained the proffered data. For example, applicants have not explained what the purpose of the declaration is, how the declaration fulfills this purpose and which claims is the declaration relevant to and why.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).



John P. Sheehan  
Primary Examiner  
Art Unit 1742

jps